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3. The test stand had been in operation since mid-1947, working day and night. This building and the surrounding area was off limits to Pils, but it was indicated that the building housed two or three test stands. The testing period was not definitely determined but as the noise changed every eight to ten hours, it was assumed that this was the period during which one turbine was tested. In 1947 and 1948 explosions were occasionally heard and the sound of the engines would then be discontinued for some time.
4. Shipments of pig iron ingots, steel ingots, sheet metal, rods, coal, coke, and timber arrived by rail. During the summer of 1948, two boxes, 2 x 2 x 3 meters, arrived at the plant and were carefully unloaded and transported in an upright position. The boxes carried the English inscription "Rolls Royce" and other words which were not remembered. It was assumed that these boxes contained two turbines from England. (5)

5.

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6. There was a wide road with street car tracks on the east side of the plant. Power was supplied by the municipal power plant in three phases of 120 volts each. The plant was surrounded by a board fence with barbed wire and guard towers. At night, plant police patrolled with dogs.
7. Reconstruction of the war damaged plant began in 1945 and the plant was enlarged by new construction. Machinery and equipment from the Junkers Plant had been installed since 1946. Before 1945 the plant produced internal combustion aircraft engines and, until 1948, operated as an experimental plant as well as repairing and overhauling aircraft engines. From January 1946 to December 1949, workshop No. 13 was assigned to the experimental production of turbines for the JUMO 004 type engines. (3) Each worker was required to manufacture a turbine part from a sketch. The part had to be completed within a certain length of time and was then checked and sent to the welding shop where the turbines were assembled. Source could draw no conclusions as to the success and status of these experiments, because of this production process. However, according to this source, mass production of turbines for the German type JUMO 004 engine was scheduled to start in early 1950. From an advertisement displayed in Korpus I, calling laborers to work on the construction of these turbines, it was determined that the turbines were given the designation TR I (Turbina reaktivnaya).
8. Workshop No. 13 housed the sheet metal shop, the deep drawing shop (Tiefzieherei) and the welding shop. The building was being equipped with conveyor belts through all sections. The sheet metal shop was equipped

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with various drop shears, cutting machines, circle cutting machines, and press-cutting machines and 17 presses, among them, fixed presses, eccentric presses and hydraulic deep drawing presses. Most of the machinery came from Junkers and Arado. In the welding shop there were modern welding machines, most of them of American and Swedish make, according to the name plates. Four small special electric welding machines, one large Swedish special electric welding machine, which was 2 meters long, and various aluminum welding machines and spot welding machines were observed. (9)

9. Workshop No 13 had 690 employees, working in three eight-hour shifts. There were 200 Soviets, including women, per shift and 30 PTs, most of whom came from the Junkers and Arado Plants.
10. Aircraft plant No 15 was mainly concerned with experimental work. Many draftsmen worked in a building which was partially screened by canvas and curtains. The building also had drafting rooms on the second floor.
11. About 300 to 400 engines were stored near the scrap dumps. Among these, the following types were recognized: BMW single and double-row radial engines and old Soviet in-line engines. Another type of engine, which was assumed to be the Soviet version of an American model was stored in open boxes. This type of engine was equipped with an exhaust turbine with supercharger for the compressor. Engines of a similar type were also stored at the Tsiam Plant. It was assumed that such engines were produced at both the Tsiam Plant and Plant No 15. (10).
12. The plant produced V-shaped in-line engines until June 1943. These engines were repeatedly observed at the test stands. The engines were liquid-cooled and had 12 cylinders, six in each line. It was assumed that they were Soviet copies of a German engine. The Soviet engine had the same power as the German engine but was not as smoothly shaped. (11) Starting in June 1943, the plant increased the production of turbines, the testing of which was heard day and night. These turbines were 1.5 to 2 meters long, 50 cm in diameter and had an exhaust, which was 30 to 35 cm in diameter. The eight-stage compressor was fitted with upright guide blades and an exhaust with a controllable cone (Verstellbarem Kegel). Eight light-metal, rotating wheels were fitted to the shaft and eight other wheels were fastened into slots of the compressor casing. The number and shape of turbine impellers was not known, as this part of the turbine was enclosed. The compressor casing was marked with three letters, one of which was the letter "I". (12)

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Comments.

- (1) For plant layout sketch [ ] see Annex 1. This sketch essentially agrees with, and supplements, previous reports. For plant location see references.
- (2) The type designation TR I is reported for the first time. The relationship between Plant No 15 and the Tsiam Plant, as well as Zavods 156 and 165, was previously reported.
- (3) This statement agrees with a previous report which stated that the production of turbines was begun during the fall of 1946 and mass production of these turbines was started in early 1947. [ ]
- (4) German and other foreign make machine tools have been previously reported. However, this is the first time detailed information on this machinery has been reported.
- (5) NINE power plants were observed in Plant No 115 during approximately the same period.
- (6) For sketch of this ring, see Annex 2, sketch A. This ring may be a casing for the fuse connection or, if the reproduction is not quite correct, some kind of distributor ring for compressed air.
- (7) The dimensions of the starter, which are reported for the first time, indicate an engine of about 2,000 rpm and about 12 to 15 HP.

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(8) This does not agree with the statement by the first source, and with previous information, that the production of the 1A1 type engine was started in 1947.

(9) For plant layout [redacted] see Annex 2, Sketch B.

This sketch differs considerably from that provided [redacted]. However, the two sketches agree on the location of some of the plant buildings.

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(10) Since it is not known whether source identified the engines by their name plates, his descriptions, especially of the German engines, should be received with reserve. Some German engine types such as the JUMO 213 and BMW were also fitted with turbo superchargers.

(11) The engines are believed to be of the type AN-38 which were reportedly produced until mid- 1947

(12) [redacted]

2 Annexes: Sketches.

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Attachment 1

Legend:

1. Main gate.
2. Administration.
3. Apartments.
4. South gate.
5. Guard house.
6. Railroad connection.
7. Apartments.
8. Instruments workshop and precision machine shop. Gauges were also constructed in this shop.
9. Laboratory.
10. PW camp.
11. Korpus II. Part of this building was used for production and the rest was used for storage.
- 11a. Four-story administration building.
12. Machine shop equipped with lathes, milling machines and grinding machines.
13. Aluminum foundry equipped with several small blast smelting furnaces.
14. Chemical laboratory.
15. Test stand for turbojet engines.
16. Korpus VIII. This building allegedly housed test stands for cylinder in-line engines until mid-1947. After that time the building was vacant.
17. Auxiliary power plant equipped with turbines and two coal-fired boilers. This plant was in operation only part of the time.
18. Turbine assembly shop.
  - 18a. Forge equipped with several forging hammers. Source observed the production of turbine parts, especially casings in this forge.
  - 18b. Iron and chrome nickel steel foundry.
19. New buildings in a former cemetery.
20. Several small buildings.

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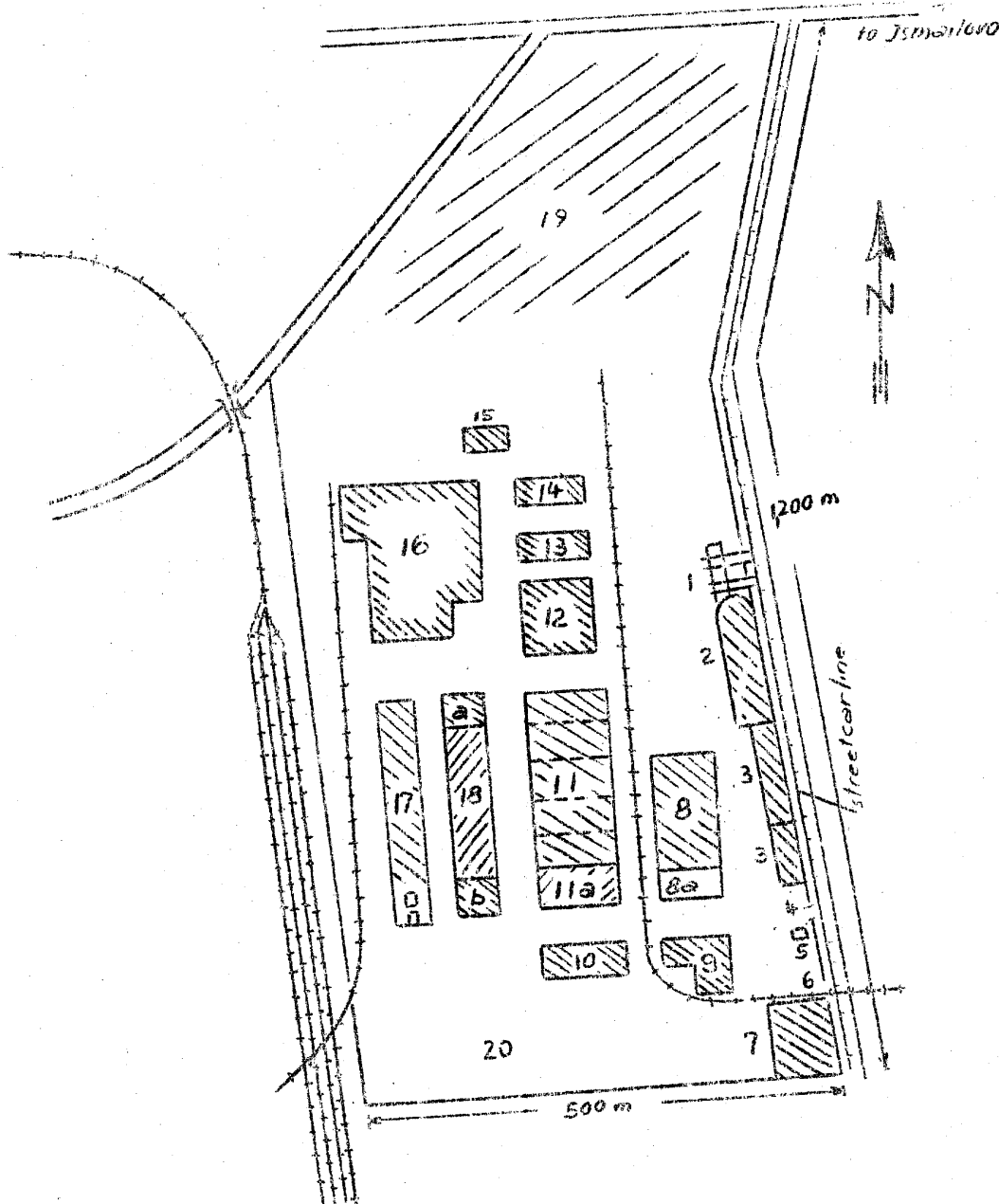
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Attachment 1

Aircraft Plant No. 45 in Moscow



not to scale

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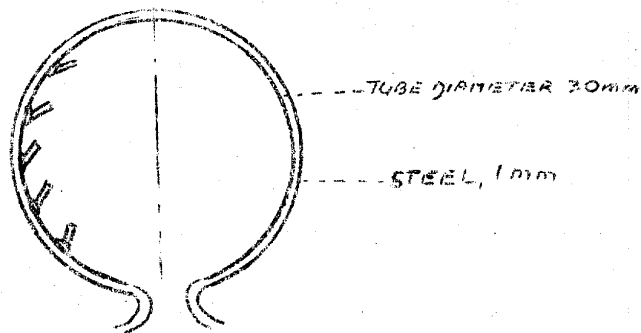
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[ ]  
attachment 2

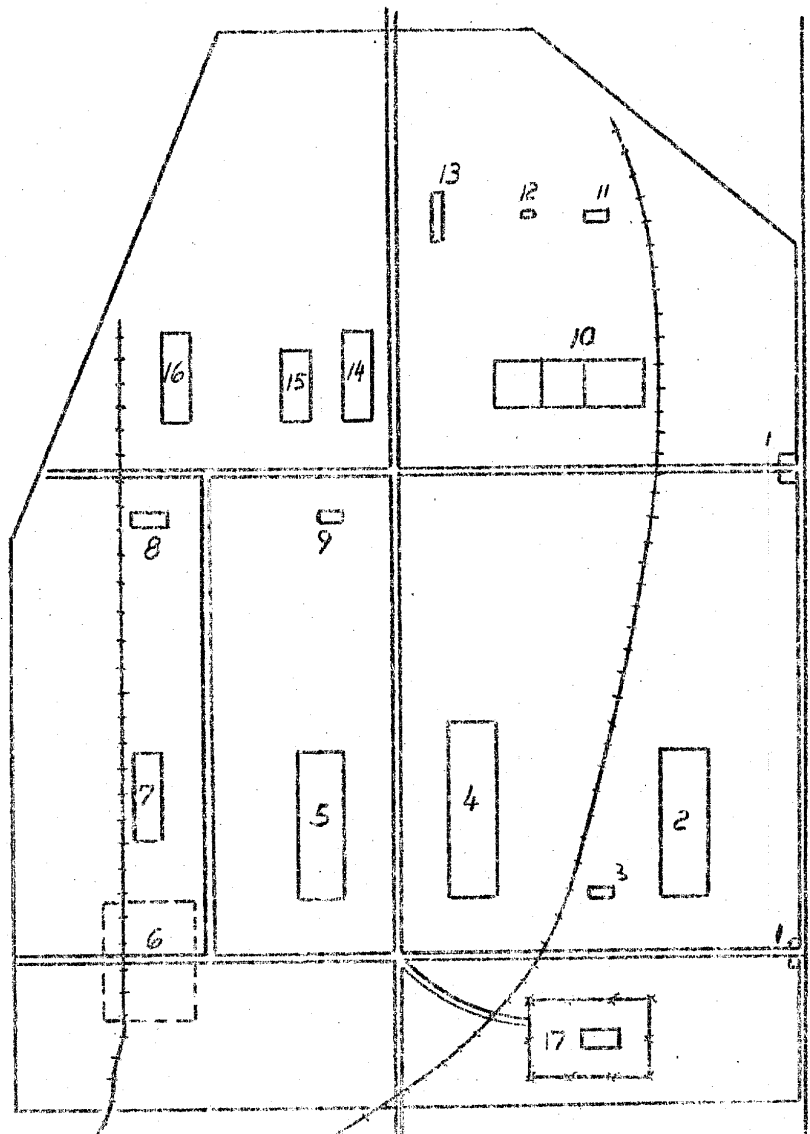
workpiece observed at aircraft plant No. 45

Sketch A



Sketch B

aircraft plant No. 45 in Moscow, layout



scale 1:10 000



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Attachment 2

Legend:

1. Guard houses.

(spansthebende) included in the workshop. In 1948 he learned from Soviets that a production line was being constructed here.

3. Plant management and drafting offices.
4. Korpus II, 300 x 80 meters, reconstructed from war damage by PWs. As the roof collapsed twice because of faulty construction, the completion of the building was delayed until late 1948. The building was still vacant as of December 1949.
5. Forge, 250 x 80 meters, equipped with a drop forge and eight to ten hammers, the largest of which weighed five tons. The forge fires were oil burning. The building also housed a lathe shop and a hardening shop used for plant requirements.
6. Sawmill.
7. Steel warehouse.
8. Oxygen warehouse.
9. Foundry, equipped with one stationary open-hearth furnace with a capacity of 2 tons per tapping, one American electric steel furnace of unknown capacity, and several coke-fired cupola furnaces. The foundry also had two hand molding shops and produced slugs for jigs and fixtures. The workshop employed 20 Soviets and 20 PWs per shift.
10. Workshop No 13, 250 x 80 meters.
11. Boiler house.
12. Dispensary.
13. New building, 30 x 20 meters, without equipment. It was learned from Soviet laborers that this building was to house the bronze foundry.
14. New building, 150 x 80 meters.
15. Lathe shop, off limits to PWs. Source observed the following equipment: American automatic lathes, Swedish and German lathes, and a large vertical boring and turning mill for turbine parts.
16. Ten to fifteen roofed test stands covering an area of about 150 x 50 meters, used to test engines which were overhauled at the plant.
17. PW camp.

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